IN THE TITLE:

The title of the invention has been amended as follows:

OPTICAL COMMUNICATION DEVICE ~~AND ITS CONTROL METHOD~~ AND METHOD FOR CONTROLLING OPTICAL COMMUNICATION DEVICE

IN THE SPECIFICATION:

Paragraph beginning at line 21 of page 1 has been amended as follows:

However, with respect to a filter main body used in these light wavelength variable filters, one filter has a light transmitting distribution and a transmitting wavelength is switched by sliding the filter main body with respect to a light beam. Accordingly, productivity of the filter main body is low and ~~it takes cost~~ its operation is expensive. Further, when the wavelength is greatly different in the switching of the transmitting wavelength, a slide distance of the filter is lengthened so that ~~responsibility becomes worse~~ its operational reliability is poor. Further, it is not easy to make the filter main body compact since the size required for the filter main body is larger. ~~has a size to a certain extent.~~

Paragraph beginning at line 9 of page 2 has been amended as follows:

Further, each optical control communication module has a single function. Therefore, when it is ~~necessary for~~ required that the optical communication device ~~to~~ have plural functions, it is necessary to use plural optical control communication modules. Namely, the optical communication device is large-sized.

Paragraph beginning at line 15 of page 2 has been amended as follows:

An object of the present invention is to provide a compact multifunctional optical communication device having good ~~responsibility, and~~ operational reliability and to a control method ~~of this~~ for the optical communication device.

Paragraph beginning at line 6 of page 3 has been amended as follows:

Here, ~~for example,~~ the optical communication device is, for example, a Switch, Splitter, Combiler, Attenuator, Isolator, shutter, Terminator, Demultiplexer, multiplexer, and Add-drop-module.

Paragraph beginning at line 9 of page 3 has been amended as follows:

~~Also,~~ Furthermore, the optical communication device ~~is included the added~~ includes Optical, Wavelength, and Polarization types of the foregoing ~~before there~~ devices ~~name~~ (for example, Wavelength Switch, Wavelength Splitter, Wavelength Combiler, Optical Attenuator, Optical Isolator, Optical shutter, Optical Terminator, Optical Demultiplexer, Optical multiplexer, Optical Add-drop-module, etc.).

Paragraph beginning at line 16 of page 3 has been amended as follows:

Moreover the optical communication device ~~is included the~~ includes a combination of the single function devices described above.

Paragraph beginning at line 18 of page 3 has been amended as follows:

Further, for example, the optical part is an optical filter constructed by a dielectric multilayer film, a lens, a prism, or a reflecting plate~~, etc~~.

Paragraph beginning at line 3 of page 7 has been amended as follows:

~~Fig. 3 is a view for~~ Figs. 3A-3C are views explaining the function of an optical filter as an optical part of Fig. 1;

Heading at line 2 of page 8 has been amended as follows:

DETAILED DESCRIPTION OF THE PREFERRED ~~EMBODIEMENTS~~ EMBODIMENTS

Paragraph beginning at line 17 of page 8 has been amended as follows:

As shown in Fig. 2B, the moving optical members 20 are arranged in series and alternately with respect to a light beam 100 between the input section 10 and the output section 40. Stated otherwise, the optical members 20 are arranged in a zig-zag pattern on opposite sides of a path of the light beam 100.

Paragraph beginning at line 20 of page 8 has been amended as follows:

As shown in Fig. 2B, the input section 10 has an optical fiber 10a and a lens 10b. The output section 40 similarly has an optical fiber 40a and a lens 40b. Thus, a parallel ~~a~~ light beam 100 can be obtained between the input section 10 and the output section 40. Means for ~~taking parallel~~ making the light beam 100 parallel is not limited to the above. For example, ~~A~~ a method for ~~taking parallel~~ obtaining a parallel light beam ~~may be also used by~~ involves the use of the optical fiber 40a, 40b which ~~have a special worked~~ has an aspherical side surface ~~kind of aspherical~~ for outputting an optical signal ~~like~~ through a parallel ~~a~~ space.

Paragraph beginning at line 6 of page 9 has been amended as follows:

The moving optical member 20 is constructed by an optical part 21 and a piezoelectric actuator 22, and controls the optical signal by moving the optical part 21 by the piezoelectric actuator 22 until the optical part 21 is at an interrupting position in which it interrupts ~~of~~ the optical signal, or ~~separating~~ the optical part 21 is removed from the interrupting position. Stated otherwise, each piezoelectric actuator 22 drives a respective one of the optical parts 21 between a first position in which the optical part intersects the light beam path of the light beam 100 and a second position in which the optical part does not intersect the light beam path.

Paragraph beginning at line 3 of page 10 has been amended as follows:

For example, the piezoelectric actuator 22 is a piezoelectric actuator of a rotating type. As illustrated in Figs. ~~2~~ 2A-2B and 4, the piezoelectric actuator 22 is schematically constructed by a piezoelectric element 22b on a disc fixed onto a fixing base 22a, a vibrating body 22c arranged integrally with the piezoelectric element 22b, a moving body 22d mounted onto the vibrating body 22c, and a

pressurizing means 22e for securing contact pressure of the vibrating body 22c and the moving body 22d. A bending vibration caused on an upper face of the piezoelectric element 22b is amplified by the vibrating body 11d, and is outputted as a driving force from an unillustrated projection on the vibrating body 11c to the moving body 22d. The moving body 22d fixedly holds the optical part at its one end.

Paragraph beginning at line 22 of page 10 has been amended as follows:

Two projections 20b are arranged on a side face of the supporting member 20a such that these projections 20b nip the other end of the moving body 22d on a rotating circular circumference at this other end. Namely, a rotating range of the moving body 22d is limited by the two projections 20b. One of the projections 20b is arranged such that the optical part 21 arranged at one end of the moving body 22d is located ~~in~~ at the ~~an~~ interrupting ~~place of~~ position with respect to the light beam 100 near a side end of the supporting member 20a. The other of the projections 20b is arranged such that the moving body 22d and the optical part 21 are located ~~in~~ at escaping positions ~~as places~~ corresponding to positions not interfering with the light beam 100. Primary moment of the moving body 22d can be reduced by this structure.

Paragraph beginning at line 8 of page 12 has been amended as follows:

The control means 32 rotates and moves each optical part 21 by controlling the operation of the piezoelectric actuator 22. In this case, a new optical part 21 is arranged in the interrupting position ~~of~~ with respect to the light beam 100 to shorten a switching time, and the optical part 21 arranged in the interrupting position ~~of~~ with respect to the light beam 100 is simultaneously returned until the escaping position.

Paragraph beginning at line 15 of page 12 has been amended as follows:

The control means 32 inputs a preliminary signal to the piezoelectric actuator 22 before the optical part 21 is rotated and moved by mainly driving the piezoelectric actuator 22. Since the preliminary signal is inputted to the piezoelectric actuator 22, the piezoelectric actuator 22 attains a warming-up state and ~~responsibility~~ the operational reliability at an inputting time of a driving signal for the main driving is improved.

Paragraph beginning at line 2 of page 13 has been amended as follows:

In accordance with the optical communication device 1 of the above construction, the optical part 21 arranged in the interrupting position ~~of~~ with respect to the light beam 100 can be suitably selected by suitably controlling the operation of each moving optical member 20. Accordingly, an optical filter function of the optical communication device 1 is switched.

Paragraph beginning at line 8 of page 13 has been amended as follows:

Namely, the optical communication device 1 becomes an optical communication device able to switch the wavelength of the output light of the output section 40 with good ~~responsibility~~ reliability by using optical filters of plural kinds having different wavelength transmitting characteristics as the optical part 21.

Paragraph beginning at line 14 of page 13 has been amended as follows:

The optical communication device 1 also becomes an optical communication device able to switch the wavelength of light removed from the output light from the output section 40

with good ~~responsibility~~ reliability by using optical filters of plural kinds having different wavelength absorption characteristics as the optical part 21.

Paragraph beginning at line 20 of page 13 has been amended as follows:

The optical communication device 1 also becomes an optical communication device able to change intensity of the output light from the output section 40 with good ~~responsibility~~ reliability by using optical filters of plural kinds having different light absorption rates as the optical part 21.

Paragraph beginning at line 11 of page 14 has been amended as follows:

An optical communication device 1 in a second embodiment mode of the present invention schematically shown in Fig. 6 has a construction similar to that of the optical communication device 1 in the first embodiment mode. However, in the construction of the optical communication device in this second embodiment mode, an encoder 23 is arranged without arranging the projection 20b in the moving optical member 20, and the control means 32 has a function for controlling an operation of the piezoelectric actuator 22 on the basis of detecting results from the encoder 23.

Paragraph beginning at line 6 of page 18 has been amended as follows:

The present invention is not limited to each of the above embodiment modes. In particular, there is no limit ~~in an optical part applicable~~ to the type of device or combination of devices which may be used as the optical part 21. ~~and its combination, etc.~~ A compact optical communication device of a composite type (or a single function) having a predetermined desirable function is obtained by suitably selecting the type of optical part. ~~and its combination, etc.~~